

What is claimed is:

1. An absorbent article having a longitudinal dimension and a lateral dimension comprising:
 - a top sheet;
 - a back sheet, whereby the top sheet and the back sheet form a first waist region, a second waist region longitudinally opposite the first waist region, and a crotch region there between;
 - an absorbent laminate core at least partially disposed between the top sheet and the back sheet;
 - the absorbent laminate core comprising at least four layers whereby two of the layers are outer layers comprising an upper layer and a lower layer, and one of the inner layers disposed between the upper layer and lower layer is a central fibrous layer containing from about 30 to about 50% by weight super absorbent polymer (SAP), whereby the absorbent laminate core comprises at least one additional inner layer disposed between the upper layer and lower layer, the additional inner layer being selected from the group consisting of a fluid acquisition layer, a distribution layer, an additional fibrous layer optionally containing SAP, a wicking layer, a storage layer, and combinations and fragments thereof.
2. The absorbent article of claim 1, further comprising at least one fastening element attached to a lateral edge of the first waist region; and
 - one or more target devices attached to the article in the second waist region, where at least one fastening element and the one or more target devices are capable of attaching to one another, the one or more target devices being located so that the first waist region and second waist

region of the garment may be joined to one another to secure the garment on a wearer.

3. The absorbent article of claim 1, further comprising elastic leg gathers comprising one or more elastic materials disposed adjacent the lateral edge of the crotch region, and standing leg gathers disposed on the top sheet adjacent the lateral edge of the crotch region.
4. The absorbent article of claim 2, wherein the at least one fastening element comprises a hook portion of a hook and loop fastener and the one or more target devices comprise the loop portion of a hook and loop fastener.
5. The absorbent article of claim 2, wherein the at least one fastening element is an adhesive tape and the one or more target devices comprise a tape receiving surface.
6. The absorbent article of claim 2, wherein the at least one fastening element is comprised of a pair of laterally extending tabs disposed on the lateral edges of the first waist region, whereby the laterally extending tabs each include at least one fastening element.
7. The absorbent article of claim 1, wherein one additional layer is used, and the layer is a fluid acquisition layer.
- N 8. The absorbent article of claim 1, wherein one additional layer is used, and the layer is a distribution layer.
- N 9. The absorbent article of claim 1, wherein one additional layer is used, and the layer is an additional fibrous layer containing SAP.

- N 10. The absorbent article of claim 1, wherein one additional layer is used, and the layer is a wicking layer.
- N 11. The absorbent article of claim 1, wherein one additional layer is used, and the layer is a storage layer.
- N 12. The absorbent article of claim 1, wherein one additional layer is used, and the layer is a fragmented layer.
- N 13. The absorbent article of claim 1, wherein one additional layer is used, and the layer is a combination of a wicking layer and a distribution layer.
- N 14. The absorbent article of claim 1, wherein two additional layers are used.
- N 15. The absorbent article of claim 1, wherein the absorbent laminate core comprises:
 - an upper layer;
 - a lower layer;
 - a central fibrous layer disposed between the upper layer and the lower layer; and
 - an additional layer disposed between the central fibrous layer and the lower layer, the additional layer being selected from a wicking or storage layer.
- 16. The absorbent article of claim 1, wherein the absorbent laminate core comprises:
 - an upper layer;
 - a lower layer;

a central fibrous layer disposed between the upper layer and the lower layer; and
an additional layer disposed between the central fibrous layer and the upper layer, the additional layer being selected from a fluid acquisition layer or a combination of a wicking and distribution layer.

17. The absorbent article of claim 1, wherein the absorbent laminate core comprises:

an upper layer;
a lower layer;
a first central fibrous layer disposed between the upper layer and the lower layer;
a second central fibrous layer disposed between the first central fibrous layer and the lower layer; and
an additional layer disposed between the first and second central fibrous layers, whereby the additional layer is selected from a storage layer or a combination of a wicking and distribution layer.

18. The absorbent article of claim 1, wherein the absorbent laminate core comprises:

an upper layer;
a lower layer;
a first central fibrous layer disposed between the upper layer and the lower layer;
a second central fibrous layer disposed between the first central fibrous layer and the lower layer; and
a tissue layer disposed between the first and second central fibrous layers.

19. The absorbent article of claim 1, wherein the absorbent laminate core comprises:

an upper layer;

a lower layer;

a central fibrous layer disposed between the upper layer and the lower layer;

a first additional layer disposed between the central fibrous layer and the upper layer, the first additional layer being selected from a fluid acquisition layer or a combination of a wicking and distribution layer; and

a second additional layer disposed between the central fibrous layer and the lower layer, the second additional layer being selected from a combination of a wicking and distribution layer or a storage layer.

20. The absorbent article of claim 1, wherein the absorbent laminate core comprises:

an upper layer;

a lower layer;

a first central fibrous layer disposed between the upper layer and the lower layer;

a second central fibrous layer disposed between the first central fibrous layer and the lower layer;

a first additional layer disposed between the first central fibrous layer and the upper layer, the first additional layer being selected from a fluid acquisition layer or a combination of a wicking and distribution layer; and

a second additional layer disposed between the first and second central fibrous layers, the second additional layer being selected from a combination of a wicking and distribution layer or a storage layer.

21. The absorbent article of claim 1, wherein the absorbent laminate core comprises:

- an upper layer;
- a lower layer;
- a first central fibrous layer disposed between the upper layer and the lower layer;
- a second central fibrous layer disposed between the first central fibrous layer and the lower layer;
- a first additional layer disposed between the first and second central fibrous layers, the first additional layer being a combination of a wicking and distribution layer; and
- a second additional layer disposed between the second central fibrous layer and the lower layer, the second additional layer being selected from a combination of a wicking and distribution layer or a storage layer.

22. The absorbent article of claim 1, wherein the absorbent laminate core comprises:

- an upper layer;
- a lower layer;
- a central fibrous layer disposed between the upper layer and the lower layer; and
- an additional layer disposed between the central fibrous layer and the lower layer, the additional layer being a fragmented layer selected from a fragmented wicking layer or a fragmented storage layer.

23. The absorbent article of claim 1, wherein the absorbent laminate core comprises:

- an upper layer;
- a lower layer;
- a central fibrous layer disposed between the upper layer and the lower layer; and
- an additional layer disposed between the central fibrous layer and the upper layer, the additional layer being a fragmented wicking layer.

24. The absorbent article of claim 1, wherein the absorbent laminate core comprises:

- an upper layer;
- a lower layer;
- a first central fibrous layer disposed between the upper layer and the lower layer;
- a second central fibrous layer disposed between the first central fibrous layer and the lower layer; and
- an additional layer disposed between the first and second central fibrous layers, whereby the additional layer is a fragmented layer selected from a fragmented wicking layer or a fragmented storage layer.

25. The absorbent article of claim 1, wherein the absorbent laminate core comprises:

- an upper layer;
- a lower layer;
- a first additional layer disposed between the upper and lower layers, the first additional layer being a fluid acquisition layer;
- a second additional layer disposed between the first additional layer and the lower layer, the second additional layer being selected

from a combination of a wicking and distribution layer or a storage layer; and

a central fibrous layer disposed between the second additional layer and the lower layer.

26. The absorbent article of claim 1, wherein the absorbent laminate core comprises:

an upper layer;

a lower layer;

a central fibrous layer disposed between the upper layer and the lower layer;

a first additional layer disposed between the central fibrous layer and the lower layer, the first additional layer being a combination of a wicking and distribution layer; and

a second additional layer disposed between the first additional layer and the lower layer, the second additional layer being a storage layer.

27. The absorbent article of claim 1, wherein the central fibrous layer comprises from about 50% to about 95% by weight super absorbent polymer (SAP), and has a SAP efficiency of at least 80%.

28. The absorbent article of claim 1, wherein the central fibrous layer comprises fibers selected from the group consisting of cellulose acetate fibers, rayon fibers, LYOCCELL fibers, polyacrylonitrile fibers, cotton fibers and cotton linter fibers.

29. The absorbent article of claim 1, wherein the central fibrous layer comprises cellulose acetate tow fibers.

30. The absorbent article of claim 1, wherein the central fibrous layer further comprises up to 10% by weight fluff wood pulp fibers.
31. The absorbent article of claim 1, wherein the central fibrous layer further comprises particulate additives.
32. The absorbent article of claim 31, wherein the particulate additives comprise insoluble, hydrophilic polymers having particle diameters of 100 µm or less.
33. The absorbent article of claim 31, wherein the particulate additives are selected from the group consisting of potato, corn, wheat, and rice starches, and partially cooked or modified starches.
34. A method of making an absorbent article comprising:
 - a) preparing a top sheet and a back sheet;
 - b) preparing an absorbent laminate core by:
 - b1) preparing an upper layer and a lower layer;
 - b2) preparing a central fibrous layer containing from about 30 to about 50% by weight of superabsorbent polymer particles (SAP), and at least partially disposing the central fibrous layer between the upper layer and lower layer; and
 - b3) preparing at least one additional layer selected from the group consisting of a fluid acquisition layer, a distribution layer, an additional fibrous layer optionally containing SAP, a wicking layer, a storage layer, and combinations and fragments thereof, and disposing the at least one additional layer between the upper and lower layers; and
 - c) disposing the absorbent laminate core between the top sheet and the back sheet,

whereby the top sheet, back sheet, and absorbent laminate core are prepared and arranged such that the top sheet and the back sheet form a first waist region, a second waist region longitudinally opposite the first waist region, and a crotch region between the waist regions.

35. The method of claim 34, further comprising
 - d) attaching at least one fastening element to lateral edges of the first waist region; and
 - e) preparing at least one target device and attaching the at least one target device to the article in the second waist region, where the at least one fastening element and the at least one target device are capable of attaching to one another, the at least one target device being located so that the first waist region and second waist region of the article may be joined to one another to secure the article on a wearer.
36. The method of claim 35, wherein the at least one fastening element comprises a hook portion of a hook and loop fastener and the at least one target device comprises the loop portion of a hook and loop fastener.
37. The method of claim 35, wherein the at least one fastening element is an adhesive tape and the at least one target device comprises a tape receiving surface.
38. The method of claim 35, wherein the at least one fastening element is comprised of a pair of laterally extending tabs disposed on the lateral edges of the first waist region, whereby the laterally extending tabs each include at least one fastening element.

39. The method of claim 34, wherein the central fibrous layer comprises from about 50% to about 95% by weight super absorbent polymer (SAP).

40. The method of claim 34, wherein the central fibrous layer comprises fibers selected from the group consisting of cellulose acetate fibers, rayon fibers, LYOCCELL fibers, polyacrylonitrile fibers, cotton fibers and cotton linter fibers.

41. The method of claim 34, wherein the central fibrous layer comprises cellulose acetate tow fibers.

42. The method of claim 34, wherein the central fibrous layer further comprises up to 10% by weight fluff wood pulp fibers.

43. The method of claim 34, wherein the central fibrous layer further comprises particulate additives.

44. The method of claim 43, wherein the particulate additives comprise insoluble, hydrophilic polymers having particle diameters of 100 µm or less.

45. The method of claim 43, wherein the particulate additives are selected from the group consisting of potato, corn, wheat, and rice starches, and partially cooked or modified starches.

46. An absorbent article having a longitudinal dimension and a lateral dimension comprising:

- a top sheet;
- a back sheet, whereby the top sheet and the back sheet form a first waist region, a second waist region longitudinally opposite the first waist region, and a crotch region there between;

c) an absorbent laminate core disposed between the top sheet and the back sheet, the absorbent laminate core comprising at least three layers whereby two of the layers are outer layers comprising an upper layer and a lower layer, and the at least one other layer is an inner layer disposed between the upper layer and lower layer, the inner layer comprising a central fibrous layer containing a mixture of tow fibers and SAP, whereby the absorbent laminate core optionally comprises at least one additional inner layer disposed between the upper layer and lower layer, the additional inner layer being selected from the group consisting of a fluid acquisition layer, a distribution layer, an additional fibrous layer optionally containing SAP, a wicking layer, a storage layer, and combinations and fragments thereof; and

d) at least one fragmented layer disposed between the top sheet and the back sheet, whereby the at least one fragmented layer is selected from the group consisting of a fluid acquisition layer, a distribution layer, a wicking layer, and a storage layer.,

47. The absorbent article of claim 46, wherein the at least one fragmented layer is disposed between the top sheet and the absorbent laminate core.

48. The absorbent article of claim 46, wherein the at least one fragmented layer is disposed between the absorbent laminate core and the bottom sheet.

49. The absorbent article of claim 46, wherein the absorbent laminate core comprises at least four layers whereby two of the layers are outer layers comprising an upper layer and a lower layer, one of the inner layers disposed between the upper layer and lower layer is a central fibrous layer containing a mixture of tow fibers and SAP, and the other

inner layer is at least one additional inner layer disposed between the upper layer and lower layer, the additional inner layer being selected from the group consisting of a fluid acquisition layer, a distribution layer, an additional fibrous layer optionally containing SAP, a wicking layer, a storage layer, and combinations and fragments thereof.

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